

Amendment
USSN 09/429,026

REMARKS

Claims 1-12 remain in the application, the specification and claims having been amended to more clearly define the invention. Reconsideration of the application and allowance of all claims are respectfully requested in view of the above amendments and the following remarks.

Submitted herewith are proposed corrections to the drawings to address the issues raised by the examiner in paragraph 1 of the office action.

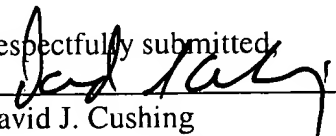
The specification and claims have been editorially amended to address the issues raised in paragraphs 2-7 of the office action.

In keeping with Applicant's ongoing duty of disclosure, the Examiner's attention is directed to related and commonly assigned U.S. patent 6,392,482, a copy of which is enclosed.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is changed as follows:

Page 6, the fifth full paragraph beginning “The signals to be”, amend as follows:

The signals to be amplified by power amplifier 10 are samples at a sample frequency of 32,768 megahertz. These samples are, classically, represented by their complex coordinates I and Q. The coordinates I and Q are applied to the respective 20 inputs 22₁ and 22₂ of a complex multiplier accumulator (CMAC) 22, the function of which will be described later. These two coordinates I and Q, which represent the real time signal in rectangular coordinates are converted into polar coordinates by a Cordic converter 24. This converter 24 has two outputs 24₁ and 24₂. The output 24₁ provides the amplitude R of the instantaneous input signal and the output 24₂ provides the phase ϕ of the instantaneous input sample signal.

IN THE CLAIMS:

The claims are amended as follows:

1. (Amended)A method for the linearisation of a wide frequency band power amplifier, ~~as said method wherein~~ comprising the steps of:
dividing the frequency band of operation of the amplifier ~~is divided~~ into at least two groups or subbands-

measuring the instantaneous frequency of each sampled input signal ~~is measured~~
in order to determine the group or subband to which it belongs, and;
applying predistortions ~~are applied~~ to the input signal, ~~these~~said predistortions
having values depending on the frequency group.

3. (Amended) A method according to claim 1, wherein ~~the~~said predistortion values are calculated by using coefficients of a polynom of which the variable is the amplitude of the input signal.

4. (Amended) A method according to claim 1, wherein the instantaneous frequency of the sampled input signal is calculated by the derivative of the phase of ~~this~~the sampled input signal.

6. (Amended) A method according to claim 1, wherein the input sampled signals are represented by their rectangular coordinates in a complex plane and ~~in that~~wherein the rectangular coordinates are converted into polar coordinates, the phase being used to determine the frequency group and the amplitude being used to determine the predistortion values in the frequency group.

9. (Amended) ~~Application of a~~The method according to claim 1, ~~to the linearisation of~~
wherein said method is used to linearize the power amplifier of a transmitter.

12. ~~(Amended)Application of the~~The method according to claim 8, wherein said
method is applied to a station comprising a transmitter with a power amplifier to be linearised
and a receiver, wherein the receiver is used for measuring the output of the power amplifier for
updating predistortion values or coefficients.

IN THE ABSTRACT OF DISCLOSURE:

The abstract is changed as follows:

~~The invention relates to a~~A method for the linearisation of a wide frequency band power
amplifier. The frequency band of operation of the amplifier is divided into at least two groups or
subbands. The instantaneous frequency of each sampled input signal is measured in order to
determine the group or subband to which it belongs, and predistortions are applied to the input
signal, these predistortions depending on the frequency group. ~~This invention~~The method is
particularly useful for the linearization of a power amplifier of a transmitter.